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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/741,332	12/21/2000	Kinya Kato	35.C14996	6155

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EXAMINER

WONG, EDNA

ART UNIT	PAPER NUMBER
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1741

DATE MAILED: 08/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/741,332

Applicant(s)

KATO ET AL.

Examiner

Edna Wong

Art Unit

1741

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-64 is/are pending in the application.
- 4a) Of the above claim(s) 1,27,40-55,61 and 62 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,24-26,28 and 36-39 is/are allowed.
- 6) ☒ Claim(s) 17 and 33-35 is/are rejected.
- 7) ☒ Claim(s) 3-16,18-23,29-32,56-60,63 and 64 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims **1, 3-23, 27, 29-35, 56-60 and 63-64**, drawn to a method of purifying polluted soil and an apparatus for purifying polluted soil, classified in class 204, subclass 158.2.
- II. Claims **2-26, 28-39, 56-60 and 63-64**, drawn to a method of purifying polluted soil and an apparatus for purifying polluted soil, classified in class 204, subclass 158.2.
- III. Claims **40-55 and 61-62**, drawn to an apparatus for generating a chlorine-containing gas, classified in class 422, subclass 186.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claimed does not require mixing a pollutant-containing gas and a chlorine containing gas to form a gaseous mixture and irradiating the gaseous mixture with light. The subcombination has utility in other combinations.

Art Unit: 1741

Inventions I-II and III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process as claimed can be practiced by another materially different apparatus.

Groups I and II do not use the specific apparatus claimed in Group III.

Furthermore, Group III has nothing to do with a method of purifying polluted soil and an apparatus for purifying polluted soil (from Groups I-II) because the apparatus (Group III) does not structurally comprise soil or a light irradiation means.

Because these inventions are distinct for the reasons given above and the searches required for Groups I-II are not required for Group III, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with Jason M. Okun on August 14, 2002 a provisional election was made with traverse to prosecute the invention of Group II, claims **2-26, 28-39, 56-60 and 63-64**. Affirmation of this election must be made by

Art Unit: 1741

applicant in replying to this Office action. Claims **1, 27, 40-55 and 61-62** are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Note: Claim 1 is directed to a process of purifying polluted soil which contains a pollutant. Claim 1 would be considered for rejoining if the functional water was amended to contain chlorine. Claim 27 is directed to an apparatus of purifying polluted soil which contains a pollutant. Claim 27 would be considered for rejoining if the means for bringing was amended to include a chlorine-containing gas generating means.

Specification

The disclosure is objected to because of the following informalities:

page 7, line 14, the word "domprises" should be amended to the word -- comprises --.

page 12, line 10, the word "the" (second occurrence) should be deleted.

page 12, line 11, the sentence does not end in a period.

page 20, line 8, reference character "1" has been used to designate both the pollutant and the soil (from page 20, line 4). It is unclear what reference character "1"

designates.

page 25, line 23, the word "measureing" should be amended to the word -- measuring --.

page 29, line 1, the number "16" should be amended to the number -- 18 --.

page 32, line 14, the number "9" should be amended to the number -- 10 --.

Appropriate correction is required.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

Claim 2 is objected to because of the following informalities:

Claim 2

line 2, it is suggested that the word -- a -- be inserted after the word "contains".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claims **17, 33, 34 and 35** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 17

line 3, "(pH value)" is indefinite. It is unclear if the narrower expression in the parentheses is, in fact, a claim limitation.

lines 4-6, "(working electrode: platinum electrode, reference electrode: silver-silver chloride electrode)" is indefinite. It is unclear if the narrower expression in the parentheses is, in fact, a claim limitation.

Claim 33

line 3, "(pH value)" is indefinite. It is unclear if the narrower expression in the parentheses is, in fact, a claim limitation.

lines 4-6, "(working electrode: platinum electrode, reference electrode: silver-silver chloride electrode)" is indefinite. It is unclear if the narrower expression in the parentheses is, in fact, a claim limitation.

Art Unit: 1741

Claim 34

line 3, "(pH value)" is indefinite. It is unclear if the narrower expression in the parentheses is, in fact, a claim limitation.

lines 4-6, "(working electrode: platinum electrode, reference electrode: silver-silver chloride electrode)" is indefinite. It is unclear if the narrower expression in the parentheses is, in fact, a claim limitation.

Claim 35

lines 2-4, "the means for irradiating the functional water with light" lacks antecedent basis.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

Claims **2-26, 56-60 and 63-64** define over the prior art of record because the prior art does not teach or suggest a method of purifying polluted soil which contains a pollutant comprising the steps of heating, passing, mixing and irradiating as presently claimed, esp., the steps of mixing the pollutant containing gas and the chlorine containing gas to form a gaseous mixture and irradiating the gaseous mixture with light to decompose the pollutant.

Claims **28-39** define over the prior art of record because the prior art does not teach or suggest an apparatus for purifying polluted soil which contains a pollutant comprising a gas-emitting means, a chlorine-containing gas generating means, a mixing means and a light irradiation means as presently claimed.

The prior art does not contain any language that teaches or suggests the above. *Calcote et al.* do not teach a chlorine-containing gas. Therefore, a person skilled in the art would not have been motivated to adopt the above conditions, and a prima facie case of obviousness cannot be established.

Claims 3-23, 29-35, 56-60 and 63-64 are objected to as being dependent upon a non-elected claim, but would be allowable if rewritten or amended.

Claims 17, 33, 34 and 35 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Citations

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Calcote et al. (US Patent No. 5,813,799) is cited to teach a process and apparatus for removing volatile contaminants from ground water or subsurface soil (col. 1, lines 10-12). Systems of the prior art include subjecting the volatiles contaminants to UV light or a similar radiative source to destroy the same rather than being collected by

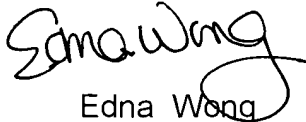
Art Unit: 1741

charcoal (col. 2, lines 11-14). Contaminant vapors **32** are released by heating the aquifer and soil rise and are collected in wells **14** and **26** (col. 3, lines 40-44).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (703) 308-3818. The examiner can normally be reached on Mon-Fri 7:30 am to 5:00 pm, alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (703) 308-3322. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 873-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Edna Wong
Primary Examiner
Art Unit 1741

EW
August 23, 2002